

DATE: May 12, 1980

SUBJECT: Dioxin Project

Site:	Syntex Fac
ID #:	14000P-7452154
Break	16
Other	Verona
	5-12-80

John E. Brugger, Physical Scientist  
FROM: Oil & Hazardous Materials Spills Branch, MERL-Ci, Edison, NJ

Mr. Kenneth S. Ritchey, Region VII  
TO: Air & Hazardous Materials Div., USEPA, Kansas City, Missouri 64106

As a member of the Dioxin Task Group, I have carefully reviewed the material provided by Syntex and the remarks made by Mr. Moll. So far as I can determine, based on these inputs and on the study provided by Hydrosience, the process should achieve the expected performance, assuming the technicians are as qualified as Mr. Moll indicates. Since the possibility--though remote--exists that unanticipated or unlikely disasters, malfunctions, or Acts of God may occur, I wish to emphasize that an effective contingency plan should be in place before the process is undertaken. I disclaim any liability for damages that might occur before, during, or as a result of the operation known as the "Dioxin Project".

EPA-ARHM/HW/MC

MAY 12 1980

Region VII, Kansas City, Missouri 64106



40029417  
SUPERFUND RECORDS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CINCINNATI, OHIO 45268

DATE: May 14, 1980

SUBJECT: Review of Syntex Dioxin Destruction Process

FROM: Richard A. Carnes  
Environmental Scientist, IRB, IPCD, IERL-Ci

TO: Robert L. Morby  
Chief, Hazardous Material Branch  
Region VII  
Kansas City, Missouri


THRU: E. Timothy Oppelt *ETO 5/14/80*  
Acting Chief, IRB, IPCD, IERL-Ci

I have reviewed the subject plans from blueprints through site visiting the actual process. Based on the site visit and a debriefing presented by Syntex, there appears to be nothing outstanding that should prohibit start-up.

I agree that the process is basically a pH adjustment followed by liquid-liquid extractions. These extractions are dependent upon intimate contact with the extractant. In the Syntex process, six extractions should be more than adequate.

I am in agreement with the overall process as being an extrapolation of accepted laboratory procedures that will be operated and observed by personnel from the chemical process industry. The EPA should permit the initiation of the process on or about May 19, 1980.

Should you have any further questions, please feel free to contact me at 8-684-7871.

  
Richard A. Carnes

DATE May 14, 1980

SUBJECT Dioxin Project

FROM Kenneth S. Ritchey, HWMS

*Kenneth S. Ritchey*

TO Robert L. Morby, Chief, HAZM

As a member of the Dioxin Task Group, I have completed my review of the Hydrosience Report: A Process for the Destruction of a Tetrachloro-dibenzo dioxin contaminated waste, plans of the process, the Dioxin Detoxification document, EPA Region VII Work Plan and response to Task Group questions provided by Syntex and Contingency Plans prepared by Syntex, EPA and the State of Missouri. Based on this review and site inspection of the process, I concur *XR* or do not concur \_\_\_\_\_ that the 4,300 gallons of NEPACCO waste containing 343 +ppm dioxin should be processed.

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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE:

MAY 15 1980

OFFICE OF SOLID WASTE

SUBJECT: Verona Dioxin Treatment Process

FROM: Alfred W. Lindsey, Deputy Director *AWL*  
Hazardous & Industrial Waste Division (WH-565)TO: Mr. Robert L. Morby, Chief  
Hazardous Materials Branch  
EPA Region VII  
Kansas City, Missouri

In our telecon earlier today, you asked that I respond with definitive comments on Syntex's plan to start up the Verona dioxin treatment process in the near future. Unfortunately, because of the priority regulatory effort we have just completed, it has not been possible for me to stay on top of developments in this project to the extent I would have liked. However, my staff has quickly reviewed a number of the documents which we received over the last months and I have discussed the project with Russ Wyer and Dick Carnes.

It continues to surprise me after Mr. Jorling's letter to Kathleen Camin (August 6, 1979) and Mr. Beck's letter of December 18 to Syntex's Mr. Moll, that Syntex continues to view this project as the best means of handling the problem. It appears to me that although much of the TCDD may be destroyed, the remaining contaminated wastes (process hexane, extraction residues, and salt solution) may be just as difficult to deal with technically and politically as the existing wastes. The disposal or further treatment of these materials should also be subject to Agency review and oversight.

Regardless of my concerns relative to how final disposal of the residuals will be effected, it appears that Syntex has cooperated admirably with your efforts to ensure that the project is safely conducted. In this regard I have a few comments:

o I had questions concerning the possibility of volatilizing TCDD from the salt and of leaking TCDD to the ground water if the effluent ditch were to become contaminated. I have been assured, however, that the residual in the salt is not likely to be TCDD but rather another less toxic form of dioxin and that the materials are non-volatile. Also, that TCDD is non-mobile in the soil. Hopefully, you have confirmation of this.

EPA-ARHM/HAZM

MAY 15 1980 - 3:20 p.m.

Region VII K.C.

1 of 2

o It is important that this salt solution not be significantly contaminated. I think it is going to be difficult to finally dispose of and there is some potential for the concrete dike to break or leak. I urge, therefore, that the TCDD and other dioxin levels in the salt be monitored closely so that a significant amount of contaminated salt is not produced.

o It is not clear that a thorough "post mortem" will be conducted after the first batch before running any more. A complete evaluation seems in order before running any more.

o There should be some thought given to decontaminating the equipment at the end of the run (maybe this has been done).

o I understand that both a water test and a hexane dry run are planned. This is, of course, proper procedure. As part of this, "fire drills" should be included to train and alert those operating the unit as to how to react in the event of various types of emergencies (leak, etc.). The contingency plan does not make it clear that operators will be trained to react automatically in such events.

o The contingency plan indicates that step 1 in an emergency is for everyone to evacuate and that it is only later that the facility gets shutdown. While I don't fully understand how the facility is set up, it seems that priority number 1 has to do with turning off the unit (pumps, etc.). This is usually not done with immediate evacuation; it often takes the form of hitting an emergency switch on his way out the

For all of these precautions have already been taken, if the material is as dangerous as TCDD, it probably is superfluous suggestions. Good luck; keep

## OFFICE OF SOLID WASTE

MAY 10 1980

## Verona Dioxin Treatment Process

Alfred W. Lindsey, Deputy Director *AW Lindsey*  
Hazardous & Industrial Waste Division (WH-565)

Mr. Robert L. Morby, Chief  
Hazardous Materials Branch  
EPA Region VII  
Kansas City, Missouri

Concerning your call this morning, my memo of yesterday (May 15), same subject, was not meant to imply that I thought EPA should hold up the project. From what I know of it, and have discussed with others, it appears that the treatment program will be safe. Thus, since Syntex wishes to proceed, I see no basis for EPA to hold it up.

My comments went to two points:

(1) We reviewed some suggestions for carrying out the program to ensure that certain items which were not clear in the documents have not been overlooked. They were meant as suggestions. If you want us to review the preparations on these items, we would be pleased to do so, but I don't think it is necessary. I trust your judgment and that of your staff in these areas.

(2) I'm not sure the contaminated residuals are going to be any easier to get rid of than the current waste even though they will be lower in intrinsic hazard (i.e., less TCDD)--but that will be Syntex's problem. I think we should apply the same degree of input and control over management of those wastes as we have done to this point.

I hope this clears up any misunderstanding.

cc: Jack Lehman  
Steve Lingle  
Ed Martin

*10/1*



# MEMORANDUM

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE  
CENTER FOR DISEASE CONTROL  
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

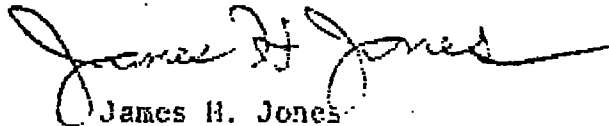
Robert Morby  
EPA, Region VII

DATE: May 16, 1980

Industrial Hygienist  
FROM : IHS, IWSB, DSHEFS, NIOSH

SUBJECT: Syntex Dioxin Destruction Project

As a member of the Syntex Dioxin Destruction Project Task Group, I have reviewed written submissions from Syntex and made a site visit. The information relayed by Syntex leads me to believe that worker protection procedures, while not ideal, are adequate to provide protection for foreseeable circumstances. Because of the less than ideal procedures, it is important that the Syntex on site supervisor ensure that the destruct operators faithfully follow all safety procedures. I concur that the process should be allowed to proceed.

  
James H. Jones

DATE:

AUG 15 1979

OFFICE OF SOLID WASTE

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Alfred W. Lindsey, Deputy Director *AWL*  
FROM: Hazardous & Industrial Waste Division (WH-565)

TO: Mr. Robert L. Morby, Chief  
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EPA Region VII  
Kansas City, Missouri

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Regardless of my concerns relative to how final disposal of the residuals will be effected, it appears that Syntex has cooperated admirably with your efforts to ensure that the project is safely conducted. In this regard I have a few comments:

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EPA-ARJH/111

Region VII

1 of 2

(2) o It is important that this salt solution not be significantly contaminated. I think it is going to be difficult to finally dispose of and there is some potential for the concrete dike to break or leak. I urge, therefore, that the TCDD and other dioxin levels in the salt be monitored closely so that a significant amount of contaminated salt is not produced.

(3) o It is not clear that a thorough "post mortem" will be conducted after the first batch before running any more. A complete evaluation seems in order before running any more.

(4) o There should be some thought given to decontaminating the equipment at the end of the run (maybe this has been done).

(5) o I understand that both a water test and a hexane dry run are planned. This is, of course, proper procedure. As part of this, "fire drills" should be included to train and alert those operating the unit as to how to react in the event of various types of emergencies (leak, etc.). The contingency plan does not make it clear that operators will be trained to react automatically in such events.

(6) o The contingency plan indicates that step 1 in an emergency is for everyone to evacuate and that it is only later that the facility gets shutdown. While I don't fully understand how the facility is set up, it seems that priority number 1 has to be to turn off the unit (pumps, etc.). This is usually not inconsistent with immediate evacuation; it often takes the form of the operator hitting an emergency switch on his way out the door.

Perhaps some or all of these precautions have already been planned, but with a material as dangerous as TCDD, it probably pays to risk making superfluous suggestions. Good luck; keep us informed.

cc: Steff Plehn  
Gary Dietrich  
Jack Lehman  
Ed Martin

0 0 1 2

DATE: ~~11/15/79~~

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EL-A-ADH/AL  
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Region VII E.

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# MEMORANDUM

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PUBLIC HEALTH SERVICE  
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NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

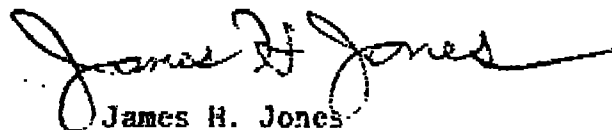
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